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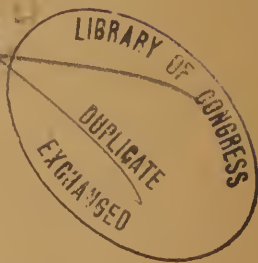
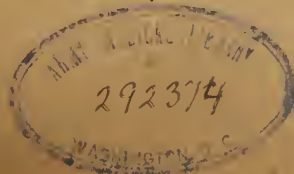
ALCOHOL,

IS IT A MEDICINE?

BY
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*Medicine, and as We Know It To-Day;" "Hygiene," etc.

Published by
DRS. PECHUMAN & MORRISON,
DETROIT, MICH.



Annex

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1891

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◦ Preface. ◦

IN submitting this little work to the public, it is our aim to present the subject with all fairness to both sides, without prejudice, in as concise and short space as possible; and to show the true action of alcohol by experiments made upon the living tissues with it. Many have written good and lengthy articles on this subject, but few, if any, have gone far enough to show its action on the tissue elements. Mere assertion that it is beneficial or injurious in its action is not convincing; so we will try to present the fundamental principles upon which all scientific investigations must be made and conclusions reached. To make our arguments more forcible we quote from many authorities of world-wide reputation. It is hoped that what is said in the following article will be the means of setting those who read it to studying for themselves, so that they may be able to give a reason for their belief.

"Magna est Veritas et Prevalebit."

"Clothe the devil as you will,
He's yet as much the devil still;
Name him angel, reverend, priest.
Yet he's no better in the least."

ALCOHOL.

Is it a Medicine?

WHEN a young tree is left to grow in a bent or crooked state for years, it is hard to straighten after many years of growth. When a body of water has begun to break a dam, it is often very hard to stop the overflow. When a tank of oil has caught fire, it is hard to extinguish the flame; and when there is a common opinion on a certain subject it is almost dangerous to try to change such opinion. When a man is blind it is hard for him to understand all about the delicate colors in the rainbow. But the common opinion may be wrong, and the beautiful colors in the rainbow are just the same, although the blind man can not see them. The old world believed that beyond the great ocean was no end—but death and destruction; but Columbus expected to find land; and the old world has long since learned that their belief was untrue. The flower in the forest blooms as beautiful and long as if seen and watched by the scientist's eye. The earth rolls on by night as well by day; so goes on truth, even if not known. As the traveler moves on in the uncertainty of night, so can the minds of men be misguided by false theories. But as little the people believed before the discovery by Columbus of the new continent,

and so true as this continent has been found, so true are many other facts which are still looked upon as untrue; and he who would dare to change the common channel of belief will be sure to sail on a stormy sea. But the storm will not always last; and soon all will learn and see the sun shine again,—while the adventurer knew that the sun was always shining, although an angry sea. So let us sail out on the sea of knowledge and explore the truths beyond.

We will not discuss this subject from a political, nor from the moral, but from a medical standpoint.

Much has been written for and against alcohol—to prove and to disprove that it has a place in the treatment of disease; but let us for the time being lay all prejudice aside, and let us investigate and study the experiments and experience of medical and other great authorities.

Alcohol is formed during the fermentation of vegetables containing sugar and other saccharine matter; from a sugar produced from vegetables, or, still more, from starches, which are readily converted into grape sugar by the fermenting process called diastase, during the process of germination. Or, in other words, it is a product of the death and decomposition of torula, which is a product of the fermentation and putrefaction of saccharine or other dead and decaying organic substance. All starches can be changed into grape sugar by boiling them with dilute sulphuric acid, which, to a certain extent, acts like a ferment, as it is not decomposed while in the action. The sulphuric acid can be separated by treating with lime, and the sugar is left in solution. In this way sugar is mostly made for alcohol from potatoes and other vegetables. Cane sugar may be used, but is too expensive. Alcohol is an organic and a very volatile body. The specific gravity is 0.794 at a temperature of 60° Fah. It boils at 173.1° Fah., barometer being at 30 inches. It has never been frozen nor obtained in a solid state, and is not a conductor of electricity. The chemical composition of alcohol is: Carbon, 52.67 per cent., Oxygen, 34.43 per cent., Hydrogen, 12.90 per cent. Its formula in chemical symbols is C_2H_6O .

While the formation is going on the changes that take place are as follows: Grape sugar, $C_6H_{12}O_6 = \text{Alcohol } 2C_2H_6O \text{ and } 2CO_2$, Carbonic acid. The strongest spirits known in commerce is Spirits of Wine, which contains about 90 per cent. alcohol; and the 10 per cent. of water can be removed by some chemical agent that will absorb or combine with the water and retain it at the boiling point of the spirit without any specific action on the alcohol. Some of the chemical agents used are certain anhydrous salts, as carbonate of potash, sulphate of copper and acetate of potash.

THE PHYSIOLOGICAL ACTION OF ALCOHOL.

This is the great question of importance, and one that has been under much discussion, and through ignorance or misinterpretation, both among the physicians and the common people, alcohol has been held up to be the "elixir of life." If we would look on one side of the question and take the authority of some writers, for example Dr. Bartholow, we might be in favor of using it in the treatment of disease. He says: "In small doses not too frequently repeated, alcohol increases the digestive power by stimulating the flow of blood and soliciting a greater supply of the stomach juices. * * As alcohol is a very diffusible substance, it enters the blood with great facility, and probably almost all of that taken into the stomach passes into the blood from this organ and does not reach the small intestines. The liver is consequently the first organ after the stomach to be influenced by the ingested alcohol. The blood of the portal vein, rendered more highly stimulating by the presence of alcohol, increases for the *time being* the functional activity of the liver cells, and, as is the case with the stomach, a more abundant glandular secretion follows. * * In small doses alcohol increases the action of the heart and cutaneous circulation; a slight general rise of temperature is observed, and all of the functions are, for the *time being*, more energetically performed. * * Alcohol in small doses is a useful stomach tonic. It is best taken for this purpose after or with meals. It is espec-

ially serviceable in feeble digestion of old people, the atonic dyspepsia of the sedentary, and in the slow and inefficient digestion of convalescence from acute disease." He also recommends it in brandy in apepsia of infants, summer diarrhoea both in children and adults; for cholera morbus and vomiting; in delirium tremens ice and brandy; and in cases of poisoning by other poisonous substances.

Dr. Flint, in his treatment of acute lobar pneumonia, says: "Alcoholics form an essential part of the supporting treatment, as in all other diseases, whenever the object is to keep the patient alive until the disease has reached the end of its career and advanced into the stage of resolution. The principle is the same as in other essential fevers; and here, as in the management of the latter, alcoholics are indicated to an extent commensurate with the danger from failure of the vital powers."

We could go on and quote from many others of the same old school authorities, with the same result; but we will proceed to show which is correct—to use or not to use alcohol as a medicine.

Man is a physiological, not a chemical, being. He is governed by *vital* force, not by chemical forces. All agree that a living being is made up of cells. A cell is the morphological unit of, an organism, the physiological source of specialized function. These cells are made up of living matter and formed material; or the nucleus, nucleolus and formed material, and are commonly called protoplasm; but Prof. Huxley has given such a wide signification to the word that it would mean almost anything organic. His new use of the word seems to take in living or dead structures or both, and even the structureless; and more, it may be "boiled or roasted without ceasing to be protoplasm." It includes both the living and formed material. So we prefer to use the term "bioplasm" as used by Lionel S. Beale, M. D., F. R. S., of London, England, and the eminent Professors J. M. Thurston, M. D., and J. Redding, M. D. *Bios*, life, and *plasm*, that which is capable of being fashioned. Bioplasm is living matter; it is structureless, semi-fluid, transparent and colorless. It is the only matter that can grow, move, divide itself and

multiply, the only matter that can take up pabulum—food—and convert it into its own substance; and is the only matter that can be nourished. It is the same in vegetables as in animals,—the same physically and chemically. It is in size from about 1-50,000th to 1-3,000th of an inch in diameter. Bioplasm is the only substance that can move within itself by its own inherent power. Every part of the organism that has any vitality has this living matter in its tissues,—the muscles, membranes, vessels, bone, skin, cartilage, and all other living tissues. The hair, epidermis and the nails are made by this living, moving and growing matter. Every cell has its origin in a mass of naked living matter, or bioplasm, and is formed by condensation of the outer surface of the bioplast, and in that way the bioplasm is enveloped in an outer wall of formed material. The bioplasm in the cell gets its nourishment by endosmosis or drawing in of the pabulum through the cell-wall, and in that way building up the formed material while it is gradually being disintegrated on the outer surface. This process is continually being carried on, and is what is meant by nutrition. Disintegration of the formed material is as essential as the building up of it, which fact we will make use of further on. Life does not come from organization, but all organic structure is the result of change taking place in bioplasm. Bioplasm acts on the food, and not food on bioplasm, as is proven by the fact that no matter what the food may be, nor what is its color, the bioplasm remains the same.

If all kinds of living matter are the same physically and chemically, then that which determines the difference in the formative product must be vital force. The evidences of vital force are: the inherent power to move, to grow at the expense of pabulum—substances entirely different from the bioplasm itself,—to divide by its own intrinsic power of motion, and to determine the character of the formed product of its outer substance. Chemical force does not act on bioplasm until after its death, when it may be changed to a poisonous compound. Vital force builds up complex organisms, while chemical force has a tendency to reduce complex organisms to the simple chemical

elements. All the secretions of the body, such as saliva, gastric juice, bile, mucous, pancreatic fluid and all the other secretions, are the result of the disintegration of the formed material of the different cells. These small cell-like bioplasts are the workmen of the organism. All wounds are repaired by them, all fractures are united, and all diseased tissues brought back to their normal and healthy condition, unless there is not vitality enough to overcome disease, or they have been injured or killed by poisonous material. The body is kept in repair by this living matter, and all the functions of the body are but the result of its action. The functions of the heart, stomach, liver, the muscles, nerves, brain, (mind and thought,) and all the other organs are the result of the action of this living matter; and without it the organism would be a dead thing.

Then, if man is a physical being and not chemical, and is governed by vital force, not chemical, we should reason and study how best to preserve this vital force, or rather this living matter through which vital force manifests itself. We know that food, after it has undergone the digestive process, (which is a vital but not a chemical process,) is taken up into the system through the circulation, and is appropriated by this living matter for the nourishment of the body. We know that we get different effects from different kinds of food: Meats stimulate; so do some vegetables, while hot drinks relax; and certain vegetables produce an astringent effect, while others act as cathartics, etc. And under such dieting, with good hygienic care, the individual may keep in good health and die of old age. All will agree that we get such effects from food; and in the same way do we get the effects of harmless drugs. We go still further and examine, watch and study bioplasm under the microscope; we see the same movements and changes going on; we see it take up pabulum and convert that which is adapted to itself into its own substance, while all other substances are rejected. We take a solution of what we call a stimulant and immerse the bioplasm into it, and we find that it increases its activity, moves faster, takes up more pabulum, and divides more rapidly than

in the unstimulated condition. We next add an astringent, and it begins to move more slowly and soon contracts into a spherical shape and remains contracted, or may move slowly to a limited extent, depending on the strength of the solution. We next take a relaxant, and gradually the living matter begins to spread in all directions, in a lazy-like manner, and becomes so thin as to be almost undiscernable, and takes up very little if any pabulum. If sufficiently relaxed or astringed, the movements may entirely cease so as to appear lifeless, but when a stimulant is again added the same result is obtained as before,—it begins to move and acts as vigorous as ever, which shows that it was not injured in the least by the agents used. *To preserve vital force we must give agents that act in harmony with that vital force.* Alcohol is called a stimulant. We next take a very weak solution of alcohol and try it in the same way; but we find that almost instantly the living matter contracts into a ball-like mass. Now, we may through ignorance suppose that alcohol acts as an astringent, and so we try to stimulate it with the same harmless agent before used, but no impression is made on it; it does not move; it is dead matter. These are demonstrable facts, and lie at the foundation of physiology, pathology and the practice of medicine. Alcohol and all other poisons destroy the very life force that alone keeps the body in repair. For a more simple experiment as to the action of alcohol take the white of an egg, (which consists of albumen, and is very similar to bioplasm,) put it into alcohol, and notice it turn white, coagulate and harden. The same experiment can be made with blood with the same result,—killing the blood bioplasts. Raw meat will turn white and harden in alcohol. Alcohol acts the same on food in the stomach as it does on the same substances before introduced into the stomach, and acts just the same on blood and all the living tissues in the system as out of it; and this ~~alone~~ is enough to condemn its use as a medicine.

Nothing can live in alcohol. Nothing can putrefy in alcohol, for the reason that no germs can grow in it, but all organisms die in it. Some one may say: "Then alcohol would be a good

remedy in diseases caused by disease germs." That would be so if it were not that at the same time it destroys the germs it also destroys the living matter of the body; and it has been discarded by all those physicians who have been so unscientific as to try it for that purpose. While speaking of bacteria and disease germs we would say that bacteria are not disease germs, nor do they ever become such, as some authors would have us believe, but bacteria are merely microscopic scavengers or vultures that feast upon the effete and decaying substances that should be eliminated from the system, and are friends rather than enemies of the body, and they are found in every body either in an active or a dormant state: while disease germs are of extrinsic origin and only infest the body when the conditions favorable to their propagation are present; nor does one kind of disease germ ever change to another.

Hold a small amount of alcohol in the mouth for a short time, and taste will be gone; the mucous membrane will present the appearance of having been burnt; will become inflamed, dry and hardened, and small ulcers will result. This same condition of the mucous membrane takes place in the stomach, and the gastric and peptic glands become injured and destroyed. There will be inflammation, giving rise to a desire for drink. Digestion will be imperfect, rendering the blood plasma unfit for nourishment; the white blood corpuscles will be destroyed, and the red corpuscles will become shriveled and unfit for conveying oxygen through the system.

Alcohol and all other poisons that cause hardening, thickening or condensation of the tissues and of the blood plasma, are causes of insufficient nutrition; and from this comes fatty granular degeneration, and subsequently an increase in the connective tissue at the expense of the functional elements. Alcohol decreases the nutritive activity and thereby causes fatty degeneration of the muscles, and the heart is the organ above all others that becomes affected. A large number of alcoholic drinkers have a great amount of adipose tissue. This is not healthy tissue, but is simply fat formed by the death of living matter.

As before mentioned, bile is formed by the disintegration of the liver cells, and since, as has been shown, alcohol has the effect of hardening tissues and thus preventing disintegration, it can readily be seen how it interferes with the production of bile and causes a number of diseases of the liver, such as sclerosis, yellow atrophy, etc. This fact is made more evident when it is known that the liver receives the largest supply of alcohol after it leaves the stomach. It passes into the blood and may cause degeneration of the vessels, and none of the organs are exempt from its deleterious effects. The kidneys are particularly liable to its ravages, and the very worst forms of Bright's disease are caused by its use. The brain, having a larger amount of living matter than any of the other organs, suffers most from the effects of alcohol. Nourishment being retarded, fatty degeneration takes place as in the other organs. "The nuclei of nerve cells and the axis cylinder of the fibrillæ are transformed into small fat drops and fatty granules." Sclerosis of the brain and spinal cord, apoplexy, paralysis, delirium tremens and many nervous disturbances may develop. The brain of the habitual drunkard is found to be in a hardened condition, and a microscopic examination shows an increase or thickening of the connective tissue at the expense of the nerve element, reducing the brain capacity. The same condition will be found in the spinal cord, giving rise to different degrees of paralysis.

Alcohol is a narcotic poison and has no legitimate place in the materia medica. It has been called a food by some old writers, but is not considered so now by any author of note. That it is not a food is proven by the fact that it is not changed in the system, but is eliminated through the lungs, skin and kidneys as alcohol.

Alcohol is not a stimulant, but is an irritant. We might call it a stimulant in the same sense that a whip is a stimulant to a hungry and tired horse. The worn-out horse will exert himself to pull a little harder in order that he may get rid of the whipping; so too when alcohol or any other irritant poison is put into the system, the conservative vital force, recognizing it as an

enemy, at once makes an effort through the living matter to rid the system of the offender;—the heart increases in action and new strength seems to appear. Now, right here is where the great mass of people and a large number of physicians are deluded. They mistake the extra effort of the vital force to preserve the body against harmful agencies, for an actual increase in strength as the result of the agent given: but we wonder that they can be so blind as not to see the reaction which invariably occurs soon after the administration of their so-called stimulant. The heart decreases in strength and the temperature falls below what it was before administration of the irritant, showing that no benefit was derived. Alcohol has the effect of paralysing the nerves, stunning sensibility and deadening the feeling. It does not warm nor cool a person, but only destroys the sensation and decreases vitality.

The old theory is that alcohol is a food, but that theory has been conclusively proven to be false. They held that it was oxygenized—burned up—in the system and produced heat. This theory is yet held by a few writers who are in the habit of reasoning from a false basis. If carbon and oxygen will unite in the body at a temperature of $98\frac{1}{2}^{\circ}$ Fahr., why will they not unite outside of the body when the temperature is even much higher? Animal heat is not produced by chemical change, but is the result of the condensation of pabulum into bioplasm, and bioplasm into solid formed material.

Alcohol is a poison; but some, as an apology for giving poisons, tell us that anything may be poisonous if taken in a large quantity, and the strongest of poisons become innocent agents when given in small doses scientifically. A poison is any agent that has an *inherent* power to kill living matter. Quantity does not alter quality.

Medicines do not act on functions or symptoms, but influence the living matter to an increase or decrease in function.

We have shown without a doubt, and all thinking minds will agree, that man is a physical and not a chemical being; that every organism is made up of living cells, which are formed from

bioplasm; that this living, growing and moving bioplasm is controlled in its movements and functions entirely by vital force; that this living matter takes up the food we eat and transforms it into its own substance; that it repairs injuries and eliminates waste materials; that through it all the functions of the body are performed; that it can be stimulated, relaxed or made more firm by agents that act in harmony with the vital force; that poisons kill or injure this living matter. In the face of these facts, who can say that alcohol or any other poison is beneficial or in any way desirable in the treatment of disease? It is true that poisons modify symptoms, as, for instance, opium will, for the time being, stop pain, but how does it do so? Simply by deadening the nerves that convey sensation, and thus bringing the system on the very approach of death—killing a part of the living matter. But as soon as the effect of the opium has been thrown off, or partly so, by the vital force which is ever struggling to keep the system in a normal condition, the pain returns with increased severity, and the system is weakened in proportion to the amount of the poison given, with so much less chance for recovery. We do not wish to digress too far from the main subject, but this brings up the subjects: What is pain? and which can the system longest endure—the pain or the opiate? Pain is an increased nerve sensibility caused by pressure upon the nerves, and is for the purpose of making known to the intellect that there is an abnormal condition that should be corrected; and pain is not a disease, as some aver, and can only be removed by removing the obstruction that gives rise to it. Pain can be endured much longer than the effects of opiates; and indeed in cases where opiates are not given, the conditions are corrected sooner, and altogether the patient suffers less than in cases where opiates are administered. We say, without fear of successful contradiction, that no life has ever been saved by opium, alcohol, nor any other opiate or narcotic.

The laws of nature are fixed and unchangeable, and all the science in the world cannot change a principle or law laid down by the Maker of the universe. One of these laws is that poisons

(alcohol, etc.,) destroy life, and we can no more expect to make them curative than we would expect to be able to reverse the force of gravity or make the sun rise in the west.

But enough has been said to show that alcohol is not a medicine, and should never be used as such under any circumstances nor in any condition; and those who study this question will readily see the absurdity of using it as such. Even the writers who recommend it most highly are not consistent, as, for example, Bartholow and Flint, whom we have quoted. Only the favorable side of their theory has been shown, but we will now look into it a little further. Thousands are misled by seeing only the wrong side of a subject. If Bartholow's "small dose" "action" theory were correct, we would have in alcohol a most useful article. There are always stumbling blocks in the road of wrong reasoning or false theories, and he himself stumbles over them, as will be seen. He says in one place that, "In small doses, not too frequently repeated, alcohol increases the digestive power by stimulating the flow of blood," etc.; while in another place he says, "Large doses impair digestion directly by precipitating the pepsin, an albumenoid ferment." He does not tell us what a small or large dose is, and if he did, it would not fix the result; for one person may feel the evil effects of a very small dose, while another person with a greater resistive power, may take a much larger dose with less effect. We have shown that alcohol does not stimulate, and therefore it cannot increase digestion, but, on the other hand, it impairs the blood and makes the "stomach juices" unfit for the digestive process. "In small doses," he says, "the blood of the portal vein, rendered more stimulating by the presence of alcohol, increases, *for the time being*, the functional activity of the liver cells, and, as is the case with the stomach, a more abundant glandular secretion follows;" while again he says: "Frequent stimulation and consequent over-action results in impairment or loss of the proper function of the parts, as is the *universal law*." And further, "The hepatic cells, over-stimulated, produce an imperfect product; they are affected by fatty and atrophic changes, and shrink in size, and

the connective tissue of the liver undergo hyperplasia," etc. "In small doses, alcohol increases the action of the heart and the cutaneous circulation." It is a heart depressor and causes congestion of the cutaneous circulation. Again he says: "With an excessive quantity, the functions of the cerebrum are suspended, and complete unconsciousness ensues; the reflex movements cease; the functions of organic life are performed feebly; and, by an extension of the toxic influences to the centers presiding over these movements, respiration and circulation are finally arrested. * * The long-continued action of alcohol on the nervous system produces other disorders besides delirium tremens. Hemi-anæsthesia, epilepsy, paraplegia, amaurosis, etc., have been observed to result from alcoholic excess; and mental alienation, as the asylum statistics prove, has in the same agent its most fruitful cause." What a confession from one who so highly recommends it for its great beneficial effects! He is correct in reference to the asylum statistics; if it were not for alcohol there would be very few insane people. He again shows his inconsistency in the following: "North-pole voyages, military expeditions, (experiences in India and the Ashantee march,) and the diminished power of resistance to cold shown by drunkards, have conclusively demonstrated that alcohol does not supply the place of other foods." And still he says it is a food and that it "increases the cutaneous circulation." Mr. Dr. Prof. Bartholow either does not know what he is talking about, or has tried to make himself appear as absurd and contradictory as possible; and we are inclined to the former opinion.

Those habituated to the use of alcohol, and those who, not being habituated to its use, but temporarily under its influence, are much less capable of resisting external morbid influences, and have less power for mental or physical exertion than those who are perfectly free from its effects. The simple explanation of this is, as has been plainly shown, that the alcohol injures the living matter; and the intelligent vital force expends itself in resisting injury to this living matter; and while the vital force is thus engaged it follows that there is less force to be

expended in other directions, namely, in physical or mental exertion, or in resisting external morbid influences. "Clinical experience has amply proven that topers do not bear chloroform well;" but Dr. Bartholow advises that "before commencing the inhalation of chloroform, an ounce or two of whiskey or brandy should be given the patient." And in another place he says, "that they succumb more quickly to injuries and surgical operations, and that they possess much less power than the temperate to the inroads of acute disease." Great reasoning this! It is not necessary to say more of Bartholow's ideas, as any one can plainly see that he is in a muddle,—he tries to drive a pig around a stump to make a fawn of it, but it does not work; nor can a useful article be made of a life-destroying agent. It does not work that way. Dr. Flint does not sail on a calm sea when he recommends its use in disease; for, in another place he says, "The habitual use of alcoholic liquors favors the occurrence of fatty degeneration of the heart;" and Cornel and Ranvier say that the heart is more frequently the seat of fatty degeneration than any other muscular organ of the body.

Truth will hold its own, no matter how it may be twisted around to make it a lie. But, even after we have said so much to demonstrate the truth of our position, we would not think of stopping here, lest some long-necked, big-eyed, wise looking creature, with his hair parted in the middle, would call up his telephone and make noise enough to scare the natives, yelling: "Give 'us authority! We want authority!"—for all those that use such vile stuff to pour down the throats of invalids, go by the say-so of others (authority) using no common sense or reasoning of their own.

The giving of "small doses" of an injurious substance reminds us of a story of two Irishmen that had lately come over. They had never seen a shot-gun, and, on coming into possession of one, they concocted to experiment with it; so they loaded it with a good heavy charge of powder and shot, and the question arose as to what they would have for a target. Tim agreed to be the target, and accordingly placed himself in position a few

feet distant; and Pat raised the gun and took aim. Tim cries out: "Shoot aisy, Pat." Upon which, Pat makes reply: "To be shure an' Oi'll shoot as aisy as Oi can, Tim." He pulled the trigger. Tim fell. Poor Tim was dead—just as dead as if killed by a highwayman for his money. We know persons who have been shot and still live; we know persons that have taken alcohol and other poisons when sick, and they still live; but we do not care to try the experiment of being shot simply for the purpose of ascertaining whether or not we could survive the shock.

The beauty is that any one with an unprejudiced mind may study out and find the truth; and we are not alone in what we have said, but the best lights of earth and Heaven are with us, and say: It is true. To further strengthen our position and to show how far behind the light of science and reasoning those are who recommend alcohol, and that we are not alone in discarding it entirely as medicine, we will have authority:

Prof. G. Bunge, professor of physiological chemistry in the University of Basle, Switzerland, in a lecture on alcohol, said: "In general, let it be understood that all the workings of alcohol in the system which usually are considered as excitement or stimulation are only the indications of paralysis. * * The benumbing of all sense of fatigue or weariness belongs also among the tokens of paralysis so commonly attributed to stimulation. It is a deep-rooted belief that alcohol strengthens the weary to new exertions and efforts. The sense of fatigue is the safety-valve of our human organism. Whoever dulls this sense in order to work harder or longer may be likened to the engineer who sits down on his safety-valve in order to make better speed with his engine. The error that alcohol strengthens the weary is most fatal in the class to which the largest part of the population belongs: Poor people, whose income scarcely holds out for the supply of the barest necessities, are led by this mistaken notion to spend a very important part of their wages in drink, rather than in providing plentiful and nourishing food which alone can fit them for hard work. That this idea is almost ineradicable may be seen in the experience of the habitual drinker.

He who is once accustomed to a daily amount of alcohol is really capable of greater exertion than he will be if the drink is suddenly withdrawn. It is not necessary to explain this here. It is the same with the opium-eater; the opium-eater cannot work, or eat, or sleep, on giving up his drug,—he is strengthened (?) by his opium.” The explanation of this is, that alcohol and opium produce an abnormal—an artificial—condition of the system in which there is more hardened, dead and effete matter in the body, with a less proportion of living matter in the cells than is normal, and the vital force, ever striving to preserve an equilibrium, accommodates itself to the new condition; and when the cause of this new condition is suddenly cut off, the equilibrium of the nervous and circulatory systems is disturbed, and the vital force attempts to correct the condition and eliminate the excessive amount of effete material, keeping up an excitement for some time, or until the normal condition is reached as near as possible. The disturbance caused by the sudden withdrawal of the alcohol or opium is very similar to the disturbance occasioned by giving a moderate-sized or large dose to one who is not accustomed to its use.

To resume, he says, “But the man who is entirely free from narcotics is the stronger, more capable man. Better than any scientific deduction, however, one learns the real uselessness, nay, actual damage of moderate drinking, through the thousand experiments made with the army, and which go to show, all of them, most conclusively, that soldiers, in peace and war, in all climates, in heat, rain and cold, best endure the hardship of their labors and discipline when all kinds of intoxicating drinks are withdrawn from their supply. * * Dr. Frank H. Hamilton expresses himself as follows, concerning it: ‘It is greatly to be hoped that these experiments may not be repeated in the United States army. We have reached the firm conviction, through observation and experience, that the customary use of alcohol is under no circumstances necessary for healthy [and less for sick] persons. We make no exception for cold, rain, heat, nor even for the habit of former drinkers, when once they

have enlisted. * * Alcohol strengthens no one. It only deadens the feelings of fatigue. * * From this cause alone proceed a whole array of diseases; no organ of the body goes unscathed of the destroying power of alcohol. English physicians tell us that the half of all sickness is caused by it; and almost all doctors agree that most of the diseases so induced, especially the manifold forms of nervous ailments brought on by drink, from the lightest nervousness to pronounced insanity, are unquestionably hereditary. * * In illustration it is stated that of three hundred imbecile children whose parents' condition in life, habits and health was thoroughly investigated, it was found that one hundred and forty-five were the children of regular drinkers."

James Ross, M. D., F. R. C. P., physician to the Manchester Royal Infirmary, on the premonitory symptoms of alcoholic paralysis, says: "When we have to treat a disease like alcoholic neurosis, which can be readily cured in its early stages by the simple withdrawal of the poison, without any special treatment, but which, when fully established, may resist all treatment or prove rapidly fatal," etc.

The eminent Dr. Semnola, professor in the college of medicine at Naples, says: "I am of the opinion that the action of alcohol is simply a toxication, like many other antipyretics, as digitalis, phenic acid, etc., which poison the patient and those organs or tissues which are the necessary instruments of febrile manifestation."

Dr. Geo. R. Achor writes: "Some years ago, when it was the custom to attempt to cure delirium tremens by giving brandy, one out of every four died at the Edinburg Hospital. Since then the professors of the medical department of the hospital have treated over three hundred cases of delirium tremens without alcohol without losing a single case."

Prof. Gardner, of the Glasgow University, gave one hundred men thirty ounces of alcohol; seventeen died out of the hundred. Of five hundred and nine cases of young persons who were not allowed wine or whiskey not one died. In a teetotal hospital at

Leeds, England, of three hundred patients who took not a drop, all recovered."

Prof. Beale, one of the greatest scientists of the age, says: "Alcohol is not a food, but is absorbed as alcohol. It does not act as a food; it does not nourish tissue. It may diminish waste by altering the consistence and chemical properties of fluids and solids. It cuts short the life of rapidly growing bioplasm, or causes it to live more slowly; and thus tends to cause a diseased texture in which vital changes are abnormally active to return to its normal and much less active condition. It is easy to prove that by these measures many cells that were alive are killed, and that those that escape death live and grow more slowly than before."

Prof. N. S. Davis, M. D., of Chicago, founder of the American Medical Association, and who has been over fifty years in successful practice, says: "I have demonstrated by the last forty years of actual experience that no form of alcoholic drink, either fermented or distilled, is necessary or desirable for internal use, either in health or any of the varied forms of disease; but that health can be better preserved, and disease be more successfully treated, without the use of such drinks." Dr. Davis published a pamphlet a few years ago, in which he gives the extensive proof of the physiological damage done by alcohol in all its different forms. "At the present time there are but two pretenses or supposed morbid conditions for which alcoholic remedies are prescribed by the enlightened part of the profession. One of these is that popularly prevalent condition of exhaustion or impairment from overwork (mental or physical), or from excessive drain by nursing or unnatural discharges. It is in this large class of half-invalids that the moderate daily use of beer, ale, wine, and occasionally stronger alcoholic drinks, is prescribed on the plea that their power to retard the waste of tissue is conservative and equivalent to the addition of new matter by assimilation. The *utter fallacy* of this we have already indicated. The other morbid condition for which these agents are very generally prescribed, is that weakness of the heart some-

times met with in low forms of fever, and the advanced stage of other acute diseases. It is claimed that alcohol is capable of strengthening the action of the heart under circumstances named, and also under the first depressing influence of severe shock. There is nothing in the ascertained physiological action of alcohol on the human system to sustain this claim. Indeed it is difficult to conceive how it is possible that an agent which so plainly and directly diminishes nerve sensibility and muscular action, can at the same time act as a cardiac or heart tonic. I have used every available means for testing experimentally the effects of alcohol upon the heart and blood vessels, but have failed in every instance to get proof of any increased force of cardiac (heart) action. Simple truth compels me to say that *I have never yet seen a case in which the use of alcoholic drinks either increased the force of the heart's action, or strengthened the patient.* But I could detail very many cases in which the administration of alcoholic remedies was quieting the patient's restlessness, enfeebling the capillary circulation, and steadily favoring increased engorgement of the lungs and other internal viscera, and thereby hastening a fatal result, where both attending physician and friends thought they were the only agents that were keeping the patient alive."

Dr. Davis also speaks of the use of alcohol in the treatment of continued fevers, claiming that its action was similar to that of the internal antipyretics. "It diminishes nervous sensibility, reduces temperature, and retards molecular changes. The assumption hitherto has been that alcohol must undergo oxydation in the body, but experiments have shown that this theory is erroneous." He then gives the statistics of many hospitals where alcohol was used in the treatment of pneumonia and typhoid fever, and then compares them with those of his own wards in Mercy Hospital, Chicago, and with other institutions where alcohol was not used. The result of this comparison showed that the mortality from pneumonia and typhoid fever was very much lower in hospitals where alcohol was not employed in their treatment.

From a report of Dr. C. E. Steadman, of the Boston City Hospital, for 1882, we find the following result of 1,042 cases of typhoid fever treated, which is overwhelmingly against its use. The report covers a period of ten years, and is as follows:

1,042 patients left to nature, nature's remedies, and good nursing,	Deaths, 81
1,042 patients treated with quinine and salicylic acid,	" 119
1,042 patients treated with mineral acids,	" 133
1,042 patients treated with alcoholics,	" 386

"And yet, in face of such facts as these, multiplied by tens of thousands during the last twenty years, some physicians are so fearful of trusting nature and good nursing, and so rooted in the belief that poisons must be used in treating disease that they cling to and defend the use of alcoholics in typhoid fever and many other diseases."

Prof. William Hargreaves, M. D., of Philadelphia, in his fine paper on alcohol, says: "From my individual experience, corroborated by so many other physicians—many of them of great eminence in the profession—I am constrained to believe what the late Dr. John Higginbottom, F. R. S., after more than fifty years of practice, said: 'Alcohol is neither food nor physic.' For alcohol, in all its forms, instead of nourishing, poisons; instead of stimulating, narcotizes and paralyses; instead of increasing the vital forces, diminishes force, produces disease, and is an agent of degeneration and death."

We quote from the eminent Prof. W. H. Cook, A. M., M. D., of Cincinnati: "When we survey these terrible consequences of the use of alcoholics, one can but exclaim, 'Woe to him that putteth the cup to his neighbor's lips.' The medical profession is far from being blameless in this particular. By their prescriptions, many a man—aye, and many a noble woman—has had a love⁶⁶ of strong drink developed, and many a subjected thirst has been aroused to fury. Under the false theory that poisons can become good remedies—that the most frightful evils

can be changed into wholesome blessings,—the medical profession has made itself the ally of the saloon in fostering the drink appetite, and in making the use of intoxicants appear both useful and respectable. Under the guidance of false theory, the medical profession furnishes the drinker and the saloon-keeper a final argument for the use of alcohol. Thus the medical profession to-day keeps alive the cause of the drunkard and the saloonist, and saps the foundation of temperance, and prevents the success of prohibitory legislation."

Sir Astley Cooper, England, an undisputed authority in his day, denounced habitual beer-drinking as noxious to health. Referring to his experience in Guy's Hospital, he declared "that the beer-drinkers from the London breweries, though presenting the appearance of the most rugged health, were the most incapable of all classes to resist disease; that trifling injuries among them were liable to lead to the most serious consequences; and so prone were they to succumb to disease that they would sometimes die from gangrene in wounds as trifling as the scratch of a pin."

Prof. A. B. Palmer, M. D., of Michigan University, in an address delivered a few years ago, made the following remarks: "We thought, and we may sometimes still think, alcohol makes us witty: We know from observation it makes men silly. We thought it brightened the intellect and might make men wiser: we find that in the long run, at least, it dulls the intellect and makes men foolish. Wine has been called the 'milk of age,' and we thought it supported advanced life: we know that the aged live longer and retain their powers better without their use. As a medicine, we thought it protected against epidemic diseases: we know now that it invites attacks. We thought it prevented and even cured consumption: we know it is the almost frequent cause of at least one form of that disease. As our scientific knowledge of alcohol advances, our practice with it—and our language respecting it should change. As to its physiological effects, we have certainly in many respects been mistaken in the past. We have said it excited the vaso-motor nerves [the nerves

that control the blood-vessels] of the surface and thus increased vascular action in the cutaneous circulation: we know now it depresses these nerves and causes passive dilatation [congestion] of the surface vessels. We thought it increased animal heat: The thermometer shows it diminishes it. We thought that, from more blood coming to the surface and sometimes causing a feeling of warmth, it would diminish the danger from exposure to cold: we find that, from less heat being produced in the centers, and more being lost from the surface by the increased blood in the superficial vessels, the danger of exposure to cold is greatly increased. We said the alcohol taken was oxydized (burned) in the lungs, and that increased heat and other forms of force were thus produced: we find that it is not thus oxydized, and that under its influence heat and the other forms of force are lessened. We thought it increased muscular strength, and it was taken to aid men in their work: we find that it diminishes muscular power, both for immediate action and with reference to endurance. We said it was a direct heart excitor: we now know it is a direct heart depressor. We said, and nearly all the text-books still say, it is a cardiac (heart) stimulant: we know from most conclusive experience, it is a direct cardiac paralyzant."

In Brown's *Physiology and Hygiene* we find the following: "The first effect of alcohol is to impair the capability of change in the food in the process of digestion. Alcohol is entirely indigestible, and does not pass with the chyme into the intestinal tube, but is instantly taken up by the absorbents and carried into the veins, and by way of the right side of the heart and pulmonary artery, it reaches the lungs and begins to escape with the breath exhaled. That which gives odor to the breath of one who drinks is, substantially, pure alcohol. A very small part of it has lost one-third of its hydrogen, and is formed into a compound which chemists have named adehyde." It is said that a person may be kept warm during cold weather by the frequent taking of alcohol in some form, but "common observation shows that he will freeze much quicker with than without the brandy.

The flush of the face is the result of diminished action, suffering the blood to accumulate in the capillaries; and his sense of heat depends on perverted sensibility."

The eminent Prof. J. Redding, M. D., who has done more to reconcile the practice of medicine with physiology than any other person, says: "Alcohol is a poison, diminishing or suspending the vital activities of the body, arresting or retarding the nutritive changes and disintegrative processes, and thus lowering the temperature and reducing the secretions and excretions; in a word, deranging all the processes of animalization. Yes, 'it is easy to prove that by these measures many cells that were alive are killed, and those that escape death live and grow more slowly than before.' Any agent or class of agents which tend to destroy or materially affect the substance of bioplasm is detrimental to the best interests of the economy at large, and should never be administered in any form whatever.

"All the elements experience a true retrograde metamorphosis, the infarcti become dry and contract into a yellowish white, opaque, apparently firm, but in reality very friable—anything but an ideal substance. Apoplexy, schlerosis of the brain and cord, paralysis, and many other grave disorders of the nervous system are induced by alcohol. Cornil and Ranvier state that it is reasonable to refer gastric ulcer to a molecular death of the tissue elements, to embolism or thrombosis of one of the vessels. Ecchymosis and capillary embolisms, when they accompany ulcerations, give rise to a very superficial mortification which does not involve the deep tissues. They say: 'We may admit, as a general law, that the lesion is caused by an arrest of the circulation. Artheroma of the arteries may in some cases be recognized as a cause of the trouble. The quality of the food, alterations of the gastric juice, substances which have a local action upon the stomach, as for example, alcohol, mercury, etc., may also enter into the etiology of the disorder. An ulceration once established, we may suppose that the continuous action of the gastric juice, together with schlerosis of the small arteries, which diminishes the afflux of blood and consequently the nutri-

tion of the part, is sufficient to prevent complete cicatrization, and to occasion accidents observed.' Alcohol stands in a causative relationship to molecular death, embolism, thrombosis, ecchymosis, vascular schlerosis and obliteration, artheroma and aneurism of the arteries, alterations of the digestive fluids, general and special fatty degenerations, and hence it not only favors the occurrence of the gastric ulcer in an eminent degree, but it renders them persistently incurable.

"But worse than all else,—yea, a thousand fold more disastrous in its damnable influence,—it even penetrates into the pregnant womb and there grasps the unborn babe in a vice-like grip, and, sad to say, may never let go either throughout time or endless eternity. * * The brain bioplasm suffers no less in degree than that of any other part of the body; and I am fully convinced that an unprejudiced history of the lying-in room will show that the increase or diminution of idiotic and feeble-minded children closely coincides with the increase or diminution in the practice of using alcoholic and other narcotic poisons as drinks and as medicines. * * Under the influence of the abominable poisons—alcohol especially—the cerebral bioplasts are arrested in their growth and multiplication, are diminished in size and hampered in function; are much less freely supplied with pabulum; grow and form more slowly; are predisposed to fatty-granular degeneration; there is less vital force, mind, soul, spirit; this immortal part cannot expand, is dwarfed, stunted, and hence when freed from the young *old body*—from its earthly tabernacle of flesh, blood and alcohol—it has but few, if any, earthly treasures of wisdom, but few acts of kindness and compassion, or deeds of love and charity to remember or to be remembered.

"While it may be true that an adult, of his own free will and without incentive or predisposing causes, does occasionally become a drunkard, I am convinced that nine hundred and ninety-nine out of every one thousand individuals who become drunkards are made so in embryo, infancy or childhood, by the use of alcoholic decoctions, soothing syrups, opiates, calomel, etc., which are given as medicines to allay pain, obtund nerve sensibility, to

cure the little sufferer of his *vital manifestations*, of his *mental discomforts*, but leave the actual disease and its, perhaps, putrid causation to time and debilitated vitality to remove."

In the United States Dispensary we find the following in regard to alcohol: "Alcohol is the intoxicating ingredient in all spirituous liquors, including wines, porter, ale, cider, and every other liquid which has undergone the vinous fermentation. * * As an article of daily use, alcoholic liquors produce the most deplorable consequences. Besides the moral degradation which they cause, their habitual use gives rise to dyspepsia, hypochondriasis, visceral obstructions, dropsy, paralysis, and not infrequently mania. * * When taken in large quantities, alcohol, in the various forms of ardent spirit, produces a true apoplectic state, and occasionally speedy death. The face becomes livid or pale, the respiration sturterous, and the mouth frothy, and sense and feeling more or less completely lost. After death abundant evidence of the absorption of alcohol is furnished."

Dr. E. A. Parker, of England, made a great many experiments and reported the following results: "That twenty-six ounces of alcohol given to a man fasting reduces the temperature thirty-two degrees. When that amount was given when the process of digestion was about completed, there was a slight reduction of the temperature of the body. When alcohol was given at meals, from four to eight ounces in twenty-four hours, there was no increase of temperature perceivable. In no case did alcohol raise the temperature of the body. In the four cases experimented upon there was an increase of the pulse from five to ten beats per minute when at rest; when in exercise the increase was greater while under the influence of the alcohol, but the mean pulse in twenty-four hours was not increased unless the alcohol was frequently given. After the effects of the alcohol passed off, the pulse became weaker. The respirations were not increased by alcohol, but were lessened and deeper."

Dr. F. R. Lee, of England, says: "All poisons lessen vitality and deteriorates the ultimate tissue in which force is repositied.

Alcohol is an agent, the sole, perpetual and inevitable effects of which are, to avert blood development, to retain waste matter, to irritate mucous and other tissues, to thicken normal juices, to impede digestion, to lower animal heat, to deaden nervous sensibility, to kill molecular life (bioplasm,) and to waste, through the excitement it creates in heart and head, the grand controlling forces of the nerves and brain."

Dr. Lee also says that while he was living near Buckingham Palace, in London, Prince Albert was taken sick, and was doing well for a few days, when they began to give him brandy to strengthen him—to enable him to recover more rapidly. The more he was stimulated the worse he grew, until he died. It is true they believed it was the best thing for him, but their thinking so did not make it so.

Dr. Hamilton says: "A much more grave condition of affairs follows the continued use of large quantities of alcohol, and no more hopeless disease exists than that of which we are about to speak. While in delirium tremens recovery may take place, followed by total reformation, without any serious damage to the nervous system, the more serious nerve changes wrought by constant saturation can never be repaired, but tend to further degeneration and decay."

In the *Journal of Balneology*, we find that "Stanley very positively declares that Englishmen can keep their health under the equator only on condition that they entirely relinquish alcohol; even the use of light wine or malt liquor is followed by the most unfavorable effects, and in the course of a few months or a year the health is broken down and death or invalidism follows."

Greeley, the great Arctic explorer, said that "those who used alcoholic drinks could not stand the cold as well as those who did not. Those men who used no alcoholic drinks of any kind stood much more cold, hunger and hardship than those who did. The latter soon gave out, froze or died of exhaustion."

Reynolds says: "It has been proved to be a true narcotic poison, of the same class as the so-called anæsthetics, chloroform and sulphuric ether. * * Its influence is entirely in

the direction of paralysis—suspension of nervous activity—a source of deficient vital power.”

Dr. Da Costa says: “The abuse of spirituous liquors gives rise to a disorder of the mental, motor and sensory functions, producing sleeplessness, headache, giddiness, hallucination, as well as to a sensation of choking, a diminished vitality, a tendency to fatty degeneration, especially of the liver and kidneys.”

The theory that alcohol is necessary in the treatment of pneumonia has received a death blow from Dr. Bull, of New York, who finds that in the New York hospitals sixty-five per cent. of the pneumonia patients die with alcoholic treatment, while in London, at the Object Lesson Temperance Hospital, only five per cent. die.

S. Wilks, M. D., physician to Guy’s Hospital, London, says: “To my mind, the most important question in therapeutics at the present day is the value of alcohol in disease. If it be said that its frequent use is an evidence of its potency, this is the more sufficient reason why its administration should be watched with the extremest care. So wedded, however, are some to the idea of the absolute necessity of stimulants, that they have expressed almost incredulity when they have heard it stated that fevers would terminate favorably without them. Young persons with typhus and typhoid do far better, I believe, without them.

* * It is also a fact that in bronchitis I have repeatedly seen improvement after stimulants have been omitted; and, as regards heart disease, I am convinced that the amount of mischief done is immense. In the case of fevers and bronchitis, the weak pulse is often but an indication of extreme capillary congestion, and a stimulus to the heart often aggravates the evil; and in the case of a diseased and weak heart, where repose is indicated, a constant stimulation by alcohol adds immensely to its trouble.

“It causes me daily surprise to observe how the effects of stimulation are overlooked. Often have I been called to see a patient apparently dying, sometimes of a nervous disorder, at another time of a liver complaint, and at another of heart disease. He is lying in bed, where he has been for some time, and

kept alive (as it is said) by brandy; the breath is abominably fetid; the heart's action is so rapid that it is impossible to say whether the organ is diseased or not; the patient refuses food, or if this be taken, it is rejected, and so he is plied with brandy to keep him alive; the body is in fact saturated with the spirit or its elements. My first remark on seeing such a case is, that a man cannot live on alcohol; he must take food, or he will die. The correctness of such common-sense remarks is admitted, but qualified with the statement that no solids can be taken, and if stimulants be omitted, it is feared the patient will sink. It is assumed that the constant administration of brandy is necessary for the temporary maintenance of life, and the idea never seems to have been conceived that the stimulation of the heart causes the weak fluttering pulse, and the stimulation of the stomach a subacute gastritis. Do you ask me what method I adopt? The simplest possible. I withdraw every drop of the stimulant, and in a few hours the irritated stomach is partly restored to its normal condition, the nervous excitement abates, the patient takes a little food, and he begins to mend. Do you ask, again, whether I do not fear any frightful results from the sudden withdrawal of the stimulants? I say, not the least; I have no fear of the consequences. Not of delirium tremens? Not in the least. * * There are no facts to show that the withdrawal of the accustomed drink is attended with any evil results, although I know that an imaginary fear of this kind leads to an erroneous and vicious method of treatment—the plying the patient with a stimulant during the violence of the attack, the effect of which is to prevent or prolong the cure. * * Do not then assume that alcohol is an equivalent to a tonic, and that it must be necessarily administered because your patient is weak. It may be that that very weakness is due to the long-continued pernicious effects of this same stimulant; indeed, as you have often heard me say in the out-patient room, if a man comes into our presence with a tottering gait, bloated face, and his nervous energy all gone, you may be quite sure that he has been taking “strengthening” things all his life.

Dr. W. B. Carpenter says the average mortality for the whole population of England is twenty-three per thousand; those insured in life insurance companies, eleven per thousand; those insured in Friendly societies, (Masonic, Odd Fellow and others,) ten per one thousand; in the Rechabites, who are total abstainers, seven and one-half per thousand.

The Pennsylvania Insurance Report of 1874 gives the following rate of death during the preceding year:

Western Masonic, R. A.,	. . .	deaths per 1,000,	14
Odd Fellows,	" "	1,000, 6
United Brethren (M.)	" "	1,000, 8
Temperance Mutual	" "	1,000, 4

The death rate among those insured who use alcoholic and malt liquors is from two to three times greater than among total abstainers. We could quote pages of statistics of like import.

Dr. Austie truthfully says that, "The nervous enfeeblement produced in an ancestor by long-continued excesses in strong drink is reproduced in their off-spring, with the effect of producing insanity in one, epilepsy in another, neuralgia in a third, and alcoholism in a fourth."

CONCLUSION.

We have shown our readers by physiological facts that alcohol should never be used as a medicine. We have quoted from many different authorities of world-wide reputation; we have given statistics, to show that alcohol is not only not necessary, but is positively injurious in all conditions and under all circumstances. We find that insanity "has in the same agent its most fruitful cause," as asylum statistics prove. In writing on this subject, we have not been influenced by any feeling of prejudice, but have been prompted solely by the conviction of the truth of our position, in the face of the popular, determined and detrimental feeling in favor of its use. We have shown that alcohol, as do all other poisons, possesses an inherent power to destroy the living matter of the body, in "small doses" as well as in large doses; that it hardens the tissues, and in that way retards

nutrition, causing fatty degeneration, and thus injuring or destroying the most vital organs; that it impedes digestion, the circulation and all the functions of the system; that it produces many diseases and all the nervous derangements, from the least to the most deplorable and hopeless cases of insanity; and that it even affects the unborn babe; and that it produces a weakened condition in the parent that will be inherited by the offspring, giving rise to many serious derangements, such as heart disease, epilepsy, idiocy, insanity, and in most cases alcoholism, besides predisposing the unfortunate being to all the contagious and infectious diseases.

No good can come of its use. Even those few writers who attempt to apologize for its use in "small doses" condemn its regular use or the taking of large doses as much as do those who condemn its use entirely.

One great inconsistency in regard to the use of alcohol we would like to mention here, and that is, that those who recommend alcohol give it to cure the very conditions that it produces; and hence they give it in Bright's disease, heart disease, dyspepsia, delirium tremens, and also in all the acute diseases, and in all debilitated conditions, "to strengthen (?) the patient." How often we hear of death by heart failure in acute disease. Such deaths, in ninety-nine cases out of a hundred, are but the result of the alcohol or other like depressing agents given.

There is no disputing that many deaths occur each day as the result of the administration of alcohol in acute diseases, to say nothing of the deaths caused by its habitual use; and those who give it ignore the very fundamental principles of physiology and the many published statistics. The Boston Hospital report tells a sad story in this connection; it shows that out of one thousand forty-two cases treated with alcoholics three hundred eighty-six died, while out of the same number treated without alcohol only eighty-one died. Using plain English, three hundred five were actually killed with it. Another example: Dr. Bull finds that sixty-five out of every one hundred pneumonia patients in the New York hospitals die under alcoholic treatment, while only

five in a hundred die in the London temperance hospital where alcohol is not used. Would it not be the truth to say that sixty out of the hundred were killed by its use? Any one can answer this; it is plain enough.

"What is meat for one man is poison for another." This is a very common and popular expression, originating with that class of physicians who do not study for themselves; and it is only used as a cover for ignorance. There is no reason nor truth in such assertion; and it is plainly shown to be false by the following facts, viz.: That every man is the same physically and chemically, and hence what is a poison for one is poison for the other; the only difference being that some are possessed of more resistive power—strength, vitality—than others. We cannot go into further details in this short article; but these physiological facts are fully explained by other advanced school writers.

William the Conqueror, George I., George IV., Queen Anne, Charles Edward Stuart, the brilliant Richard Brainsley Sheridan, and the noted Paracelsus, the founder of a great medical system, died as common drunkards; as have also many who were once our best and most worthy citizens. Let us listen to the cries of many through the sad story of J. J. Talbott, who was once a very prominent and a very intelligent divine, but who afterwards died while drunk: "I had a position high and holy. The demon tore from around me the robes of my sacred office, and sent me forth churchless and Godless, a hissing by-word among men. Afterwards my voice was heard in the courts. But the dust gathered on my open books, and no footfall crossed the threshold of the drunkard's office. I had money ample for all my necessities, but it went to feed the coffers of the devils who possessed me. I had a home adorned with all that wealth and the most exquisite taste could suggest. The devil crossed its threshold and the light faded from its chambers. And thus I stand—a clergyman without a church, a barrister without a brief, a man with scarcely a friend, a soul without hope,—all, all swallowed up in the maelstrom of drink."

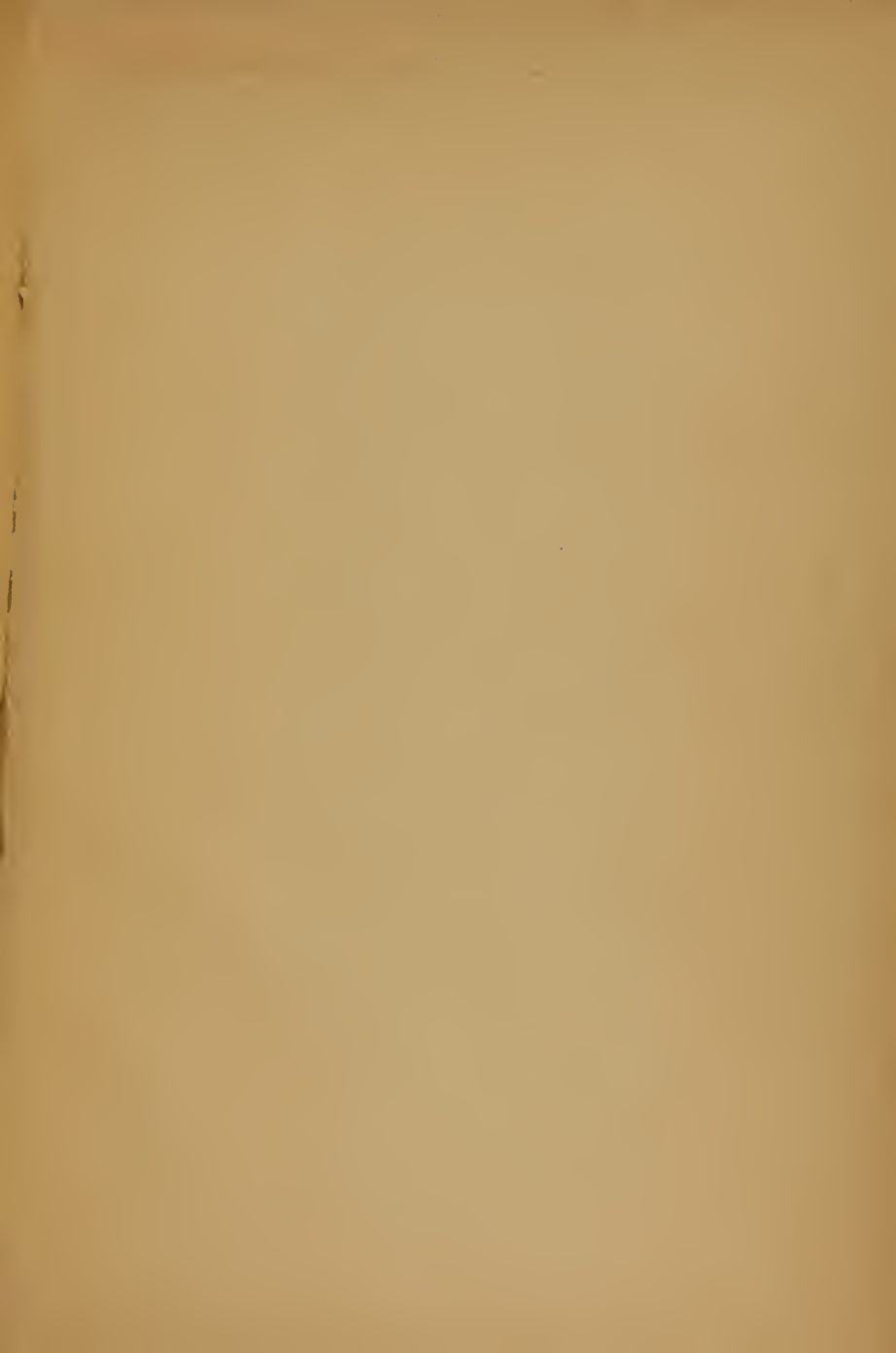
But the mists of superstition are gathering, and soon they will

rise far above the light of the sun, and in the dawn of the rays of knowledge we will see this relic of the dark ages fade away and disappear as did the practice of witchcraft in days not long since past. Until then let us study this subject, educate those who are ignorant of it, and fight for the right.

“Truth is mighty and will prevail.”

THE END.









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